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CLAIMS

1. A prime mover for extracting power from a current of water comprising:
- 5 a body;
- a control member protruding from a side of the body and adapted for submersion in the current of water to generate thrust;
- means for periodically reversing the direction of
- 10 the said thrust, causing the body to oscillate; and
- means for extracting power from the oscillatory movement of the body.
2. A prime mover according to claim 1 in which at least
- 15 one control member protrudes from each side of the body.
- A 3. A prime mover according to claim 1 ~~or 2~~ in which the shape of the body is such that water is caused to travel faster over a portion of the surface of the body and in
- 20 which one or more protruding control members are positioned at that portion of the surface of the body.
4. A prime mover according to claim 3 in which the body comprises curved sides which orientate the body with
- 25 respect to the current of water so that the control member or members are substantially perpendicular to the direction of the current.
- A 5. A prime mover according to ~~any preceding claim~~ ^{claim 1} in
- 30 which the shape of the sides is symmetrical. ^
- A 6. A prime mover according to claim 3, ~~4 or 5~~, in which the sides of the body are convex.

7. A prime mover according to any ^{claim} preceding claim in which at least one second protruding control member is provided fixed with respect to the body and arranged so that when the direction of thrust of a first reversible protruding control member is reversed, the angle of the second fixed control member with respect to the current of water is altered so that the action of the water on that second fixed member causes the body to oscillate.

8. A prime mover according to claim 7 in which the fixed second control member is positioned at a point on the body at which the velocity of the water current flowing past the body is at or near a maximum and the first reversible control member is spaced laterally from it in the direction of the water current.

9. A prime mover according to any ^{claim} preceding claim in which one, or more control members comprise hydroplanes whereby the direction of thrust is reversed by the angle of inclination of at least one hydroplane.

10. A prime mover according to any ^{claim} preceding claim in which one or more reversible control members is pivotable in its entirety.

11. A prime mover according to any ^{claim} preceding claim in which one or more reversible control member is pivotable about an edge of that member protruding from the body.

12. A prime mover according to any ^{claim} preceding claim in which one or more reversible control members is pivotable about a centrally located axis protruding from the body

and passing through the member.

A 13. A prime mover according to ^{claim 1} ~~any preceding claim~~ in which one or more of the reversible control members are
5 formed by pivotable flaps mounted to a control member or other mounting means fixed with respect to the body.

A 14. A prime mover according to ^{claim 1} ~~any preceding claim~~ in which one or more reversible control members have an
10 aerofoil shape.

A 15. A prime mover according to ^{claim 1} ~~any preceding claim~~ in which one or more control members comprise a rotatable cylindrical structure, the direction of rotation of which
15 can be reversed so as to cause a change in the direction of thrust generated.

A 16. A prime mover according to ^{claim 1} ~~any preceding claim~~ in which the distribution of control members on opposing
20 sides of the body is symmetrical.

A 17. A prime mover according to ^{claim 1} ~~any preceding claim~~ in which the body is elongate and tends to orientate itself so that it is elongate in the direction of the current.
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A 18. A prime mover according to ^{claim 1} ~~any preceding claim~~ in which the body oscillates in a vertical direction.

A 19. A prime mover according to ^{claim 1} ~~any preceding claim~~ in which more than one control member is provided on
30 opposing sides of the body.

20. A prime mover according to claim 19 in which the

control members are spaced along the body in a direction substantially perpendicular to the direction of the current when the body is orientated so that its control members protrude from the body in a direction
5 substantially perpendicular to the direction of the current.

21. A prime mover according to claim 20 in which the body is arranged to oscillate vertically and two or more
10 control members are provided on opposing sides of the body in a substantially vertical line.

22. A prime mover according to claim 20 ~~or 21~~ in which three or more control members are provided on each side
15 and the separation of the control members is substantially equal.

23. Apparatus for extracting power from moving water comprising a prime mover according to ~~any preceding~~
20 ~~claim~~ ^{claim}.

24. Apparatus according to claim 23 in which the prime mover is connected to mooring means secured or securable under water.

25. Apparatus according to claim 23 ~~or 24~~ in which the prime mover is connected to mooring cable.

26. Apparatus according to ^{claim 25} ~~any of claims 23 to 25~~ in
30 which the prime mover is axially slidably mounted or mountable to a column secured or securable under water in an upright position.

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27. Apparatus according to claim 26 in which the prime mover comprises a downwardly extending tube which surrounds the column.

5 ~~A~~ 28. Apparatus according to any of ^{claim 23} ~~claims 23 to 27~~ in which the prime mover is submerged when generating power.

~~A~~ 29. Apparatus according to any of ^{claim 23} ~~claims 23 to 28~~ in which power conversion means are provided comprising one
10 or more hydraulic pumps, a crank arrangement, or means for generating electricity, such as an electric coil and magnet.

~~A~~ 30. Apparatus according to any of ^{claim 23} ~~claims 23 to 28~~ in
15 which power conversion means are provided comprising a fluid pump for pumping fluid to a higher level to store potential energy.

~~A~~ 31. Apparatus according to any ^{claim 23} ~~claims 23 to 30~~ moored to
20 or mounted on a structure such as a column on which apparatus for extracting power from wind is mounted.

~~A~~ 32. Apparatus according to any of ^{claim 23} ~~claims 23 to 31~~ in
25 which the prime mover is buoyant.

~~A~~ 33. Apparatus according to any of ^{claim 23} ~~claims 23 to 32~~ in
30 which the prime mover comprises an open bottomed tank which when it oscillates alternately compresses and decompresses a fluid inside it between a closed top of the tank and the water surface.

34. Apparatus according to claim 33 in which at least one duct in the top of the tank permits the fluid

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alternately to flow out of and into the tank.

35. Apparatus according to claim 34 in which the fluid flowing through one or more ducts drives a turbine.

36. Apparatus according to claim 35, in which two or more ducts are provided and the number of ducts selected can be varied and/or in which the size of one or more ducts can be varied.

37. Apparatus according to claim 35 ~~or 36~~ in which a turbine is housed in a duct.

38. Apparatus according to ~~any of claims 36 to 37~~ in which the turbine rotates in the same direction irrespective of the flow of fluid out of or into the tank.

39. Apparatus according to ~~any of claims 35 to 37~~ in which valve means are provided so that fluid passes through the turbine in the same direction irrespective of the flow of fluid out of or into the tank.

40. Apparatus according to ~~any of claims 34 to 39~~ in which the turbine is directly drivably connected to an electrical generator.

41. Apparatus according to ~~any of claims 33 to 39~~ in which the fluid is air.

42. A method for extracting power from a current of water using a prime mover as claimed in claim 1, comprising periodically reversing the direction of thrust

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generated by the said control member, using the means provided for that purpose.

5 43. A method according to claim 42, in which the control member comprises a hydroplane whose angle of inclination can be reversed.

10 44. A method according to claim 42, in which the control member comprises a rotating cylindrical member whose direction of rotation can be reversed.

15 45. A prime mover substantially as described herein with reference to and/or as illustrated in the accompanying figures.

46. Apparatus for extracting power from moving water substantially as described herein with reference to and/or as illustrated in the accompanying figures.

20 47. A method for extracting power from moving water substantially as described herein with reference to and/or as illustrated in the accompanying figures.